



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/584,892

06/28/2006

Jan Eriksson

19200-000065/US

3472

30593 7590 09/28/2009  
HARNESS, DICKEY & PIERCE, P.L.C.  
P.O. BOX 8910  
RESTON, VA 20195

EXAMINER

BATES, DANIELLE A

ART UNIT

PAPER NUMBER

3643

MAIL DATE

DELIVERY MODE

09/28/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/584,892	<b>Applicant(s)</b> ERIKSSON ET AL.	
	<b>Examiner</b> DANIELLE BATES	<b>Art Unit</b> 3643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>06/28/06, 12/28/06</u> .                                      | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Election/Restrictions***

1. The election of species requirement, as set forth in the Office action mailed on 8/18/2009, has been withdrawn in view of the requirement of unity of invention for which the applicant's national stage entry of the present application fulfills. The Examiner acknowledges the restriction/election of species requirement was made in error, therefore, a first Office Action on the merits follows below.

***Priority***

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. PCT/SE05/00025, filed on 1/13/2005.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claims 1, 9, 18 and 20 recite the limitation "preferably". A broad range followed by linking terms (preferably, maybe, for instance, especially) and a narrow range or

Art Unit: 3643

limitation is considered indefinite since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired.

6. Claims 2-8, 10-17 and 21-25 are rejected as depending from a rejected independent claim.

7. Claim 14 recites the limitation "optionally", and is considered indefinite, since it is unclear as to whether or not the claimed elements following the limitation are within the metes and bounds of the patent protection desired.

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-10, 12, 13, 15, 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eriksson et al. (U.S. Patent No. 6,321,682) in view of Holmertz et al. (U.S. Patent Application Publication No. 2006/0249082).

10. Regarding claims 1, 3, 18 and 19, Eriksson et al. discloses an apparatus and method for cleaning and pre-milking a teat of a milking animal prior to the milking animal being milked (Figs 1 and 2 and abstract) comprising:

- a teat cleaning and pre-milking device (Col. 1, lines 5-7) having cleaning means and pre-milking means, wherein, during cleaning and pre-milking procedures, said teat

Art Unit: 3643

of the milking animal is exposed to said cleaning means and said pre-milking means (Col. 2, lines 4-7 and lines 65-67), said apparatus being wherein:

- pre-milking sensing means (Col. 3, lines 11-15) establishing that milk is actually extracted from said teat of the milking animal during the cleaning and pre-milking procedures.

11. Although Eriksson discloses the milk is collected and examined for contaminants and infections (Col. 3, lines 6-9), there is no specific recitation for means for examining the quality of the milk extracted from the teat. However, Holmertz et al. teaches a milking device (abstract) comprising:

- milk quality sensing means (apparatus of Fig. 2) for measuring a quality, preferably a somatic cell count value ([0046] SCC measurement), of said milk extracted from said teat of the milking animal;

- comparing means ([0046] last sentence) for comparing the measured quality of said milk with a reference quality value; and

- indicating means ([0042] "by means of digital image processing by camera 51 a SCC can be determined" and [0047] "milk having low SCC score is collected in one tank and milk having high SCC score is collected in another tank") for indicating, depending on said comparison, whether or not milk drawn from said teat of the milking animal during a subsequent milking should be mixed with milk drawn from another milking animal.

12. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to have modified the teachings of Eriksson et al. with the

Art Unit: 3643

teachings of Holmertz et al. for the advantage of providing a testing means for determining if the extracted milk from one animal is of acceptable quality and, depending on the results, whether or not the milk should be mixed with milk from another animal.

13. Regarding claim 2, Eriksson et al. discloses the teat cleaning and pre-milking device is provided with a teat receiving opening (55), and a teat receiving opening sealing means (56), and said pre-milking means is comprised of vacuum-supplying means to create an under pressure in said teat cleaning and pre-milking device, wherein, during said cleaning and pre-milking procedures, said teat of the milking animal is received by the teat receiving opening and said sealing means is in substantially airtight sealing contact with the udder of the milking animal (Col. 3, lines 59-67 through Col. 4, lines 1-12). Regarding claim 3, see discussion for claim 1. It has been held that the recitation that an element is "adapted to" perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. In re Hutchison, 69 USPQ 138.

14. Regarding claim 4, Eriksson et al. discloses a teat cleaning and pre-milking device and the pre-milking sensing means corresponds to a teat of the milking animal (as shown in Fig. 2) but fails to specifically disclose multiple teat cleaning and pre-milking devices, a pre-milking sensing means; and a milk quality sensing means that corresponds to the number of teats of the milking animal. However, Holmertz teaches four teat cups ([0023] teat cup 11) having a milk quality measuring means ([0046] measuring cell for each of the milk lines 18) which corresponds to the number of teats of

Art Unit: 3643

the milking animal. It would have been obvious to one having ordinary skill in the art to have modified the teachings of Eriksson et al. with the teachings of Holmertz et al. for the advantage of providing cleaning and pre-milking devices for each teat of the milking animal to maximize contamination prevention procedures and increase milking production.

15. Regarding claim 5-9, 20 and 21, Eriksson et al. fails to disclose any of the pre-milking sensing means and the milk quality sensing means is a device for non-contacting measurement, wherein the non-contacting measuring device comprises an optical device. However, Holmertz et al. teaches the milk quality sensing means ([0046] measuring cell) is a device for non-contacting measurement comprising an optical device (abstract: illuminating milk), further comprising:

- a light transparent measuring chamber ([0032] measuring cell comprising top and bottom cell block 37,39) through which said milk is obtained during the cleaning and pre-milking procedures is flowed, wherein

- said pre-milking sensing means is a device for determining the composition of a fluid in said light transparent chamber comprising a light source ([0029] light source) for illuminating said light transparent chamber, and a light detector for detecting light from said light source after having interacted with said fluid in said light transparent chamber;

- said milk quality sensing means is a device for counting somatic cells or fat droplets comprising a light source system for illuminating milk that flows through said measuring chamber; a two-dimensional camera system including a lens system, preferably a microscope, for repeatedly recording two-dimensional digital images of

Art Unit: 3643

illuminated milk that flows through said measuring chamber, where said two-dimensional digital images are recorded through said lens system; and a digital image processing system for determining a somatic cell or fat droplet count score from said two-dimensional images ([0028] and [0029]).

16. Therefore, it would have been obvious to one having ordinary skill in the art to have modified the teachings of Eriksson et al. with the teachings of Holmertz et al. for the advantage of identifying, treating and monitoring infected animals with high somatic cell count scores and redirecting the contaminated milk so that it does not mix with the milk of healthy animals with low somatic cell count scores.

17. Regarding claims 10, 12 and 13, Eriksson et al. fails to disclose any of the pre-milking sensing means and the milk quality sensing means is a device for milk-contacting measurement, wherein the milk-contacting measuring device has a laser or probe located inside the teat cleaning and pre-milking device. However, Holmertz et al. teaches milk quality sensing means having a probe ([0010] in the flow of milk), wherein the milk-contacting measurement is a conductivity meter ([0010] - [0012] milk conductivity evaluated by measuring the variations in the circuitry that includes the probe) capable of distinguishing pre-milk from water or from a cleaning fluid based on different conductivity (this is functional language - the recitation that an element is "capable of" performing or "adapted to" perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138.)



Art Unit: 3643

18. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to have modified the teachings of Eriksson et al. with the teachings of Holmertz et al. for the advantage of ensuring accurate conductivity readings for detecting infection and distinguishing water and/or cleaning fluid from pre-milk.

19. Regarding claims 15 and 17, although Eriksson et al. discloses a pre-milking device, there is no specific recitation of a device for milking the milking animal including means for directing milk from the teat of the milking animal. However, Holmetz et al. teaches a milking system including means for directing milk from the teat of the milking animal individually to one of a plurality of locations depending on the indication of said indicating means (digital image processing system; as disclosed in Holmetz et al. claim 33), wherein said milking system is automated and said device for milking the milking animal includes a milking robot ([0009]).

20. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to have modified the teachings of Eriksson et al. with the teachings of Holmertz et al. for the advantage of operating the milking device without the need to monitor the system, reducing operational costs.

21. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Eriksson et al. (U.S. Patent No. 6,321,682) in view of Holmertz et al. (U.S. Patent Application Publication No. 2006/0249082), as applied to claims 1-9 above, and further in view of Berg et al. (U.S. Patent Application Publication No. 2002/0054831).

Art Unit: 3643

22. Regarding claim 14, Eriksson et al. as modified by Holmertz et al. fails to disclose means for receiving an indication of the identity of the milking animal and means for adapting the cleaning and pre-milking procedures depending on the indicated identity of the milking animal. However, Berg et al. teaches means for receiving an indication of the identity of the milking animal ([0006]), and optionally the identity of said teat of the milking animal ([0010]); and means for adapting the cleaning and pre-milking procedures depending on the indicated identity of the milking animal ([0020]). It would have been obvious to one having ordinary skill in the art at the time of the invention to have constructed the teat cleaning and pre-milking device of Eriksson et al. as modified by Holmertz et al. with the teachings of Berg et al. for the advantage of quickly and effectively identifying milk with signs of infection or bacteria and separating the infected milking animal or teat from the population of healthy milking animals in order to decrease contamination in milk.

23. Claims 1-4, 15, 18, 19, 23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eriksson (U.S. Patent No. 6,626,130) in view of Van Der Lingen et al. (U.S. Patent Application Publication No. 2003/0106496).

24. Regarding claims 1, 3, 18, 19, Eriksson discloses an apparatus and method for cleaning and pre-milking a teat of a milking animal prior to the milking animal being milked (Col. 2, lines 32-33) comprising:

- a teat cleaning and pre-milking device having cleaning means (teat cleaning device 6) and pre-milking means (col. 4, line 24), wherein, during cleaning and pre-

Art Unit: 3643

milking procedures, said teat of the milking animal is exposed to said cleaning means and said pre-milking means, said apparatus being wherein:

- pre-milking sensing means (Col. 4, lines 39-40: fluid sensing) establishing that milk is actually extracted from said teat of the milking animal during the cleaning and pre-milking procedures.

25. Although Eriksson discloses the milk is collected and examined for contaminants and infections (Col. 4, lines 32-36), there is no specific recitation for means for examining the quality of the milk extracted from the teat. However, Van Der Lingen et al. teaches a device for pre-milking animals (abstract and [0016]: pretreatment system 2 as part of milking apparatus 1) comprising:

- milk quality sensing means ([0022] testing means 11) for measuring a quality, preferably a somatic cell count value ([0002] cell count measurement for separation), of said milk extracted from said teat of the milking animal;

- comparing means ([0024]) for comparing the measured quality of said milk with a reference quality value (the testing means determines if the foremilk has a disorder, therefore a comparison/analysis is made to determine the difference between the foremilk that contains the disorder and the foremilk that does not contain the disorder);

- indicating means ([0024]: the testing means comes to the conclusion, therefore indicates the foremilk contains a disorder, and the relevant valve mechanisms (13) are controlled so that the milk is separated) for indicating, depending on said comparison, whether or not milk drawn from said teat of the milking animal during a subsequent milking should be mixed with milk drawn from another milking animal; and

- a device for milking the animal ([0016] milking apparatus 1) including means for directing milk (valve mechanisms 13 and control 12) from said teat of the milking animal individually to one of a plurality of locations depending on the indication of said indicating means ([0024]).

26. It would have been obvious to one having ordinary skill in the art at the time of the invention to have modified the teachings of Eriksson with the teachings of Van Der Lingen et al. for the advantage of testing the milk for contaminants and signs of infection, and determining whether the milk should be separated or combined with milk from healthy animals.

27. Regarding claim 2, Eriksson discloses the teat cleaning and pre-milking device is provided with a teat receiving opening (21), and a teat receiving opening sealing means (22), and said pre-milking means is comprised of vacuum-supplying means (26) to create an under pressure in said teat cleaning and pre-milking device, wherein, during said cleaning and pre-milking procedures, said teat of the milking animal is received by the teat receiving opening and said sealing means is in substantially airtight sealing contact with the udder of the milking animal (Col. 3, lines 49-62).

28. Regarding claim 4, Eriksson et al. discloses a teat cleaning and pre-milking device and the pre-milking sensing means corresponds to a teat of the milking animal (as shown in Fig. 1) but fails to specifically disclose multiple teat cleaning and pre-milking devices, a pre-milking sensing means; and a milk quality sensing means that corresponds to the number of teats of the milking animal. However, Van Der Lingen et al. teaches four teat cups (Figs. 2 and 3: 15) which correspond to the number of teats of

Art Unit: 3643

the milking animal. It would have been obvious to one having ordinary skill in the art at the time of the invention to have modified the teachings of Eriksson et al. with the teachings of Van Der Lingen et al. for the advantage of providing cleaning and pre-milking devices for each teat of the milking animal to maximize contamination prevention procedures and increase milking production.

29. Regarding claims 17 and 23, Eriksson discloses the use of a an automated system for teat cleaning and pre-milking prior to the milking animal being milked, operated by a milking robot (abstract), but fails to specifically disclose the milking system is automated. However, Van Der Lingen et al. teaches the milking apparatus utilizes a milking robot ([0017]: 6). It would have been obvious to one having ordinary skill in the art at the time of the invention to have provided a milking robot for the milking system, since it has been held, and is old and notoriously well known in the art of animal milking, that broadly providing a mechanical or automatic means to replace manual activity which has accomplished the same result involves only routine skill in the art. *In re Venner*, 120 USPQ 192.

30. Claims 5-9, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eriksson (U.S. Patent No. 6,626,130) in view of Van Der Lingen et al. (U.S. Patent Application Publication No. 2003/0106496), as applied to claims 1-4, 15, 18, 19 and 23 above, and further in view of Bosma et al. (U.S. Patent No. 7,240,635).

31. Regarding claims 5-9, 20 and 21, Eriksson as modified by Van Der Lingen et al. fails to specifically disclose any of the pre-milking sensing means and the milk quality sensing means is a device for non-contacting measurement. However, Bosma et al.

Art Unit: 3643

teaches a milk quality sensing means (Fig. 6 and Col. 5, line 67 through Col. 6, line 1) is a device for non-contacting measurement comprising an optical device, further comprising:

- a light transparent measuring chamber (Col. 9, lines 32-35: measuring chamber 15') through which said milk is obtained during the cleaning and pre-milking procedures is flowed, wherein

- said pre-milking sensing means is a device for determining the composition of a fluid in said light transparent chamber comprising a light source for illuminating said light transparent chamber, and a light detector for detecting light from said light source after having interacted with said fluid in said light transparent chamber (Col. 9, lines 35-40: light source 26)

- said milk quality sensing means is a device for counting somatic cells or fat droplets comprising a light source system for illuminating milk that flows through said measuring chamber (26); a two-dimensional camera system (Col. 9, lines 35-65: camera 25) including a lens system, preferably a microscope (Col. 9, line 55), for repeatedly recording two-dimensional digital images of illuminated milk that flows through said measuring chamber, where said two-dimensional digital images are recorded through said lens system (Col. 9, lines 53-57); and a digital image processing system for determining a somatic cell or fat droplet count score from said two-dimensional images Col. 9, lines 58-61).

32. Therefore, it would have been obvious to one having ordinary skill in the art to have modified the teachings of Eriksson and Van Der Lingen et al. with the teachings of

Art Unit: 3643

Bosma et al. for the advantage of providing non-contacting means for identifying, treating and monitoring infected animals, by analysis of somatic cell count values, and redirecting the contaminated milk so that it does not contaminate the milk of healthy animals (Col. 10, lines 1-3).

33. Claims 10-14, 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eriksson (U.S. Patent No. 6,626,130) in view of Van Der Lingen et al. (U.S. Patent Application Publication No. 2003/0106496), as applied to claims 1-4, 15, 18, 19 and 23 above, and further in view of Claycomb et al. (U.S. Patent No. 7,234,414).

34. Regarding claims 10-14, 22 and 23, although Eriksson and Van Der Lingen et al. disclose the pre-milking sensing means and the milk quality sensing means test for signs of contaminated milk, both fail to specifically disclose a device for milk-contacting measurement. However, Claycomb et al. teaches an apparatus for testing milk (abstract) having a conductivity probe (Col. 17, lines 30-39: conductivity probe 12, 13, 14) capable of distinguishing milk from cleaning fluid based on different conductivity, means for cleaning the probe subsequent to having being in contact with milk (Col. 17, lines 39-45), means for receiving an indication of the identity of the milking animal (Col. 5, lines 65-67 through Col. 6, lines 1-4) and means for adapting the cleaning and pre-milking procedures depending on the indicated identity of the milking animal (Col. 7, lines 1-4).

35. It would have been obvious to one having ordinary skill in the art at the time of the invention to have modified the teachings of Eriksson and Van Der Lingen et al. with

Art Unit: 3643

the teachings of Claycomb et al. for the advantage of providing a milk-contacting means for identifying, treating and monitoring infected animals, by analysis of somatic cell count values, and redirecting the contaminated milk so that it does not contaminate the milk of healthy animals.

***Allowable Subject Matter***

36. Claims 16 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

37. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ericsson et al. US 7,412,743; Bosma et al. US 2005/0223998.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIELLE BATES whose telephone number is (571) 270-7611. The examiner can normally be reached on M-TH 8:00 AM - 5:00 PM EST, F 8:00 AM - 4:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Poon can be reached on (571) 272-6891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 3643

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DANIELLE BATES/  
Examiner, Art Unit 3643

/Kimberly S Smith/  
Primary Examiner, Art Unit 3644  
for Peter Poon, SPE AU 3643